REMARKS / ARGUMENTS

Claims 2-3, 6-7, 14 and 17-19 remain pending in this application. Claims 1, 4-5, 8-13 and 15-16 have been canceled without prejudice or disclaimer. New claims 17-19 have been added.

Priority

Applicants appreciate the Examiner's acknowledgment of the claim for priority and safe receipt of the priority document.

35 U.S.C. §§102 and 103

Claims 1-16 stand rejected under 35 U.S.C. §102(e) as being anticipated by Burke et al (U.S. Patent No. 6,638,639) and Nazmy (U.S. Pub. No. 2004/0261921). Claims 1-16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tamaki et al (U.S. Patent No. 6,051,083) in view of O'Hara et al (U.S. Patent No. U.S. Pub No. 2005/0139295). These rejections are traversed as follows.

The present invention is directed to a Ni-based superalloy having high oxidation resistance. The superalloy is hardened by dispersing γ' phases in a γ-phase matrix. The superalloy contains the elements C, B, Hf, Re and Co (C: 0.05-0.02% by weight, B: 0.01-0.03% by weight, Hf: 1.1-2.5% by weight, Re: 0.01-9.0% by weight and Co: 9.7-15% by weight). The elements C, B and Hf are added to

strengthen the grain boundary. Element Re is added to increase the strength at high temperatures. Co is added to increase strength at high temperatures to enable the solution heat treatment to be more easily performed. Therefore, according to the present invention, the strength at high temperatures can be increased by enabling solution heat treatment to be more easily performed for the Ni-based superalloy.

None of the cited references disclose or suggest these features of the presently claimed invention. For example, Nazmy and Burke et al do not disclose alloys which contain all of elements C, B and Re. The alloys disclosed in these references, except for table 4 of Burke et al, are directed to brazing filler metal and contain a large amount of B. Furthermore, the alloys disclosed by Nazmy and Burke et al are single crystal. As such, it is not necessary to strengthen grain boundary as in the present invention.

The alloys of Tamaki et al differ from those presently claimed in Co content. Tamaki et al disclose Co content of 0.9% by weight or less. On the other hand, the present invention defines alloys having a Co content of 9.7-15% by weight. As mentioned above, the present invention is based upon the concept of increasing strength at high temperatures by enabling the solution heat treatment to be more easily performed. Such a concept is neither suggested nor disclosed by Tamaki et al.

O'Hara et al disclose alloys that differ from those in the present invention in Hf content. O'Hara et al disclose alloys having an Hf content of 0.3-1.0% by weight.

On the other hand, the Hf content of alloys according to the pending claims is 1.1-2.5% by weight.

While it could be argued that Tamaki et al and O'Hara et al disclose C contents and B contents that partially overlap the B and C contents presently claimed, the element necessary for strengthening the grain boundary, namely Hf, is too small an amount in O'Hara et al. Thus, the alloys defined by the present invention differ from those disclosed in O'Hara et al with respect to the concept of increasing strength at high temperatures.

In short, the cited references, whether taken individually or in combination, fail to raise a *prime facie* case of unpatentability. As such, it is submitted that the pending claims patentably define the present invention over the cited art.

Double Patenting

Applicants request reconsideration of the double patenting rejection of claims 1-16 as being unpatentable over claims 1-10 of co-pending application No. 11/212,644. Applicants wish to point out that the pending claims and the claims of the co-pending application differ in Hf content. It is submitted that the differences in the Hf content are not obvious variations over one another and that this rejection should be withdrawn.

Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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